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KENYON & KENYON LLP
ONE BROADWAY
NEW YORK, NY 10004

EXAMINER	
WEST, JEFFREY R	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

TH

Office Action Summary	Application No.	Applicant(s)	
	09/913,992	PELZ ET AL.	
	Examiner	Art Unit	
	Jeffrey R. West	2857	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 April 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *11,12,14 and 16-25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *11,12,14 and 16-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 June 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 11-25 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 11 is rejected as failing to comply with the written description requirement because it recites "conducting, within the service element, a remote diagnosis of the

other components of the distributed system." The specification discloses the remote aspect of the claimed invention as follows:

> Furthermore, it is advantageous that the service element of the present invention allows a service provider to perform a remote diagnosis of faulty components, if the service element itself can no longer carry out a correction. This advantageously frees the user from contacting an external service in response to a fatal error, in order to eliminate this error. This considerably reduces expenditure. (page 2, lines 29-33)
>
> In addition, service element 2 allows a service provider to carry out a remote diagnosis of the individual components, using communication element 4. This service provider can then test the individual components directly, using communication element 4 and service element 2. (page 5, lines 15-17)
>
> Service element 2 also contacts the service provider, using communication element 4, when service element 2 can no longer eliminate an error itself. If the component in question can also no longer be repaired using the remote diagnosis of the service provider, then the service provider contacts the user of the distributed system, using communication element 4, in order to request that he or she visit a repair shop. Display 7 and/or communication element 4 is used for this. As an alternative, the audio playback of the car radio, which includes DAB receiver 6, can be used. (page 5, lines 19-25).

The instant specification, therefore discloses performing remote diagnosis "if the service element itself can no longer carry out a correction" wherein the service provider is contacted through use of a communication element. One having ordinary skill in the art, therefore, would recognize that the remote diagnosis is conducted using a service provider that is not "within the service element" but rather is remote/external from the service element and communicates with the service element to perform the remote diagnosis through the communication element. For these reasons, one having ordinary skill in the art would not recognize that that the

inventor(s), at the time the application was filed, had possession of the invention of claim 11.

Claim 19 is similarly rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement because it recites, "conducing, within the service element, a remote diagnosis of the other components of the distributed system".

Claim 24 is rejected as failing to comply with the written description requirement because it recites, "detecting an emergency situation; and if the emergency situation is detected, acquiring a video image of a passenger, comparing the acquired video image with a recorded image, and determining if an emergency function should be performed based on the comparison."

The specification recites:

> Furthermore, service element 2 alternatively has an additional emergency function. This includes the complete failure of the distributed system, or service element 2 has sensors to detect an emergency situation, e.g. an accident. Such sensors can also check the condition of the user. One possibility is a video camera, which compares recorded images with images stored in memory device 3, in order to conduct an image analysis, so that, in the case of the user being attacked, an emergency call is immediately executed by service element 2. Another alternative is conducting a voice analysis, using a microphone, a speech processor, and a memory device, in order to conduct a condition analysis in combination with a video analysis, or using a voice analysis alone. (page 8, lines 4-12)

As can be seen by the cited section above, the service element has an emergency function that can detect an emergency situation by comparing recorded images with images stored in memory. This section does not, however, adequately support the conditional limitation of performing such a comparison only if an

emergency situation is already detected. For this reason, one having ordinary skill in the art would not recognize that that the inventor(s), at the time the application was filed, had possession of the invention of claim 24.

Claim 25 is similarly rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement because it recites, "detecting an emergency situation; and in the emergency situation, acquiring an audio sample of a passenger, analyzing the acquired audio sample, and determining if an emergency function should be performed based on the analysis" while the specification does not describe detecting an emergency situation prior to the audio analysis.

Claims 12, 14, 16-18, and 20-23, are rejected under 35 U.S.C. 112, first paragraph, because they incorporate the lack of written description present in their respective parent claims.

Claims 11-25 are also rejected as failing to comply with the enablement requirement because the specification fails to provide adequate disclosure to one having ordinary skill as to the manner for performing upgrading and maintaining.

The specification provides:

> Thus, the present invention provides for a service element being used, which automatically configures components, performs maintenance tasks, and, in particular, updates individual components with new software versions, and, if necessary, automatically executes an emergency function as well, without the user having to intervene. (page 3, lines 29-32)

> A method known for this is the checksum method. CRC (cyclical redundancy check) sums are calculated using code segments of the software, and are compared. In this manner, an incorrect code can be identified, and, if the remaining software of the service element has the independent capability, then

> the software can be repaired, e.g. by loading new software parts, so-called patches. In the case of serious software errors of service element 2, an emergency operation of service element 2 can ensure the correction. A functional test of the bus communication can be carried out using predefined signals, which are transmitted on the bus, and to which a certain response from the connected components is expected, this response being known to service element 2. This ensures that an error message of a subsystem is not lost due to a bus interruption. (page 7, lines 10-19)
>
> Service element 2 questions a service provider in certain time intervals, e.g. once a month, if new software versions are available for the individual components of the distributed system. If this is the case, the service element requests such a new software version, and then loads it using communication means 4. The new software version is tested for errors, using test vectors, and is then configured for the corresponding components. Such an upgrade is then automatically carried out by the visitor alone. (page 7, lines 28-33)

As can be seen above, the first cited section suggests that the updating of individual components with new software versions is a particular manner of carrying out maintenance tasks, thereby not supporting the separate operations of "upgrading the other components" and "maintaining the other components" as presented in claim 11.

Similarly, the second section cited above suggest that the loading of new software is carried out for correcting an error in the software, thereby not supporting the separate operations of "in the case of an error, correcting the software within a framework of maintenance" and "communicating with a communication element for loading new software for the other components", as presented in claims 11 and 14.

The third section cited above, then indicates that the "communication element for loading new software for the other components" is actually "upgrading the other

components", further making it unclear to one having ordinary skill in the art how to make and/or use the invention as claimed.

For at least these reasons, the Examiner asserts that the specification does not sufficiently enable one having ordinary skill in the art to make/use the invention presented in independent claims 11, 19, 24, and 25 and, due to their dependency, the dependent claims.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 11, 12, 14, 17-20 and 23, as may best be understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,370,449 to Razavi et al. in view of U.S. Patent No. 6,512,968 to de Bellefeuille et al.

With respect to claim 11, Razavi discloses a service element that belongs to a distributed system in a motor vehicle as a component (column 6, lines 10-18), the distributed system further including other components that are independent of one another (column 3, lines 30-33) and interconnected by a bus (column 4, lines 40-47), the service element comprising a processing device disposed in the motor vehicle (column 8, lines 21-49) and adapted to perform operations including the operations

of configuring the other components (column 7, lines 40-46, column 8, lines 21-29, and column 11, lines 14-20), upgrading the other components (column 13, lines 53-61), maintaining the other components (column 15, lines 6-13), conducting, within the service element, a remote diagnosis of the other component of the distributed system (column 15, lines 3-10), and performing an emergency function (column 1, lines 41-46 and column 7, lines 54-63).

With respect to claim 12, Razavi discloses that the processing device is further adapted to perform the operations of detecting a new component and for integrating the new component into the distributed system (column 9, lines 45-54) and operating a display device to represent information about a configuration (column 10, line 46 to column 11, line 12).

With respect to claim 14, Razavi discloses communicating with a communication element for loading new software for the other components (column 13, lines 61-64).

With respect to claim 17, Razavi discloses that the processing device is further adapted to perform the operations operating a display to transfer information about the distributed system to a user of the distributed system (column 11, lines 14-20)

With respect to claim 19, Razavi discloses a distributed system, comprising a bus (column 4, lines 40-47) the components being independent of each other and being disposed in a motor vehicle (column 3, lines 30-33), one of the components being a service element (column 6, lines 10-18) that includes a processing device adapted to perform operations (column 8, lines 21-49), the operations including configuring the other components (column 7, lines 40-46, column 8, lines 21-29, and column 11,

lines 14-20), upgrading the other components (column 13, lines 53-61), maintaining the other components (column 15, lines 6-13) conducting, within the service element, a remote diagnosis of the other component of the distributed system (column 15, lines 3-10), and performing an emergency function (column 1, lines 41-46 and column 7, lines 54-63).

With respect to claim 20, Razavi discloses that at least one of the other components includes a communication element (column 4, lines 54-60 and column 5, line 51).

With respect to claim 23, Razavi discloses that the bus includes one of an electrical wiring system, an optical wiring system, and a radio based system (column 3, lines 53-57).

As noted above, the invention of Razavi teaches many of the features of the claimed invention and while the invention of Razavi does teach uploading new software and performing maintenance and updates of existing software of the other components when necessary, Razavi does not explicitly describe the manner in performing maintenance, specifically by performing an error diagnosis to check the software in accordance with a predetermined value.

De Bellefeuille teaches a computerized automotive service system comprising means for maintaining installed software, as part of an installation/uninstallation feature (column 10, lines 11-13), including an arrangement for performing an error diagnosis of software by checking the software in accordance with a predetermined value in order to carry out the corrective maintenance (column 11, lines 12-25).

It would have been obvious to one having ordinary skill in the art to modify the invention of Razavi to explicitly include performing an error diagnosis to check the software in accordance with a predetermined value, as taught by de Bellefeuille, because the combination would have provided a corresponding method for performing the maintenance of Razavi as part of the software updates that would have improved the operation of Razavi by periodically checking the integrity of the software of the other components to prevent incorrect operation due to software errors (column 11, lines 12-25).

6. Claim 16, as may best be understood, is rejected under 35 U.S.C. 103(a) as being unpatentable over Razavi et al. in view de Bellefeuille and further in view of U.S. Patent No. 6,330,499 to Chou et al.

As noted above, the invention of Razavi and de Bellefeuille teaches many of the features of the claimed invention and while the invention of Razavi and de Bellefeuille does teach a communication element for loading new software for the other components as well as performing an error diagnosis of the software, the combination does not explicitly include communicating with a communications element for, in the case of a serious functional error, contacting a service provider.

Chou teaches a system and method for vehicle diagnostics and health monitoring including an in-vehicle computing system (column 2, lines 55-63) connected to a plurality of elements on a bus (column 3, lines 33-37 and column 6, lines 55-56) and an arrangement for allowing a remote diagnosis of the system

(column 3, lines 15-31) and a communications element for, in the case of a serious functional error, contacting a service provider (column 5, lines 16-24 and column 7, lines 4-26). Chou also teaches coupling the processor through a communicating transceiver for communicating over a radio channel to further devices such as a notebook computer (column 3, lines 47-53).

It would have been obvious to one having ordinary skill in the art to modify the invention of Razavi and de Bellefeuille to explicitly include communicating with a communications element for, in the case of a serious functional error, contacting a service provider, as taught by Chou, because, as suggested by Chou, the combination would have aided the user of the system by providing trouble-shooting, diagnosis, tracking, and recommendations, as well as prevented serious consequences (column 1, lines 18-30) and provided emergency responses to an emergency condition, such as the condition signaled by the emergency arrangement of Razavi and de Bellefeuille (column 7, lines 22-26).

7. Claim 21, as may best be understood, is rejected under 35 U.S.C. 103(a) as being unpatentable over Razavi et al. in view de Bellefeuille and further in view of U.S. Patent No. 5,465,207 to Boatwright et al.

As noted above, the invention of Razavi and de Bellefeuille teaches many of the features of the claimed invention and while the invention of Razavi and de Bellefeuille does teach a communication element as a transceiver station (i.e.

modem) (Razavi; column 11, lines 38-42), the combination does not explicitly indicate that the transceiver station communicates over a radio channel.

Boatwright teaches a vehicle data system including a plurality of system components connected to a bus (Figure 4) wherein one of the components is a communication element comprising a transceiver station (i.e. modem) communicating over a radio channel (column 6, lines 62-66).

It would have been obvious to one having ordinary skill in the art to modify the invention of Razavi and de Bellefeuille to explicitly indicate that the transceiver station communicate over a radio channel, as taught by Boatwright, because Boatwright suggests that the combination would have provided a communication protocol for the modem of Razavi and de Bellefeuille that is a common manner of communication for modems (column 6, lines 62-66).

8. Claim 22, as may best be understood, is rejected under 35 U.S.C. 103(a) as being unpatentable over Razavi et al. in view de Bellefeuille and further in view of U.S. Patent No. 5,964,813 to Ishii et al.

As noted above, the invention of Razavi and de Bellefeuille teaches many of the features of the claimed invention and while the invention of Razavi and de Bellefeuille does teach performing an error diagnosis of the software any time that it is desired (de Bellefeuille; column 11, lines 20-25), the combination does not explicitly indicate that the error diagnosis is performed at a predefined time interval.

Ishii teaches a vehicle diagnostic data storing system comprising means for performing error diagnosis wherein the diagnosis is performed at a predetermined time interval (column 4, lines 48-61).

It would have been obvious to one having ordinary skill in the art to modify the invention of Razavi and de Bellefeuille to explicitly indicate that the error diagnosis is performed at a predefined time interval, as taught by Ishii, because, as suggested by Ishii, the combination would have improved the system of Razavi and de Bellefeuille by providing automatic and periodic error diagnosis to reduce the burden of the user having to initiate the diagnosis while reducing the chance of system error through diagnostics occurring more often (column 4, lines 48-61).

9. Claims 11, 12, 14, 16-21 and 23, as may best be understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,185,491 to Gray et al. in view of U.S. Patent No. 6,370,449 to Razavi et al. and U.S. Patent No. 6,246,935 to Buckley and further in view of U.S. Patent No. 6,330,499 to Chou et al.

With respect to claim 11, Gray discloses a service element that belongs to a distributed system in a motor vehicle as a component (column 3, lines 27-32), the distributed system further including other components that are independent of one another and interconnected by a bus (column 3, lines 27-32 and Figure 2), the service element comprising a processing device disposed in the motor vehicle and adapted to perform operations (column 3, line 66 to column 4, line 8) including the operations of configuring the other components (column 3, lines 36-52 and column

5, line 55 to column 6, line 1), upgrading the other components (column 4, line 65 to column 5, line 8), and performing an emergency function (column 3, lines 52-54).

With respect to claim 12, Gray discloses that the processing device is further adapted to perform the operations of detecting a new component and for integrating the new component into the distributed system (column 6, lines 28-53) as well as operating a display device to represent information about a configuration (column 5, lines 60-64 and Figure 9).

With respect to claim 14, Gray discloses communicating with a communication element for loading new software interfaces for the other components (column 4, line 65 to column 5, line 6 and column 6, lines 34-40 and 62-64).

With respect to claim 17, Gray discloses that the processing device is further adapted to perform the operations operating a display to transfer information about the distributed system to a user of the distributed system (column 5, lines 32-64).

With respect to claim 19, Gray discloses a distributed system, comprising a bus and components connected by the bus, the components being independent of each other and being disposed in a motor vehicle (column 3, lines 27-32 and Figure 2), one of the components being a service element (column 3, lines 27-32) that includes a processing device to perform operations (column 3, line 66 to column 4, line 8) the operations including configuring the other components (column 3, lines 36-52 and column 5, line 55 to column 6, line 1), upgrading the other components (column 4, line 65 to column 5, line 8), and performing an emergency function (column 3, lines 52-54).

With respect to claim 20, Gray discloses that at least one of the other components includes a communication element (column 4, line 65 to column 5, line 6 and column 6, lines 34-40 and 62-64).

As noted above, the invention of Gray teaches many of the features of the claimed invention and while the invention of Gray does teach a service element connected to a plurality of other components over a bus to configure and/or upgrade the other components, Gray does not explicitly teach the makeup of the bus or explicitly include maintaining the other components.

Razavi teaches a service element that belongs to a distributed system as a component (column 6, lines 10-18), the distributed system further including other components that are independent of one another (column 3, lines 30-33) and interconnected by an electrical (column 3, lines 53-57) bus (column 4, lines 40-47), the service element comprising a processing device disposed in the motor vehicle (column 8, lines 21-49) and adapted to perform operations including the operation of maintaining the other components (column 15, lines 6-13).

It would have been obvious to one having ordinary skill in the art to modify the invention of Gray to explicitly teach the makeup of the bus and explicitly include maintaining the other components, as taught by Razavi, because Razavi suggests a conventional bus makeup operable as the bus of Gray (column 3, lines 53-57) as well as means for performing maintenance that would have improved the system of Gray by keeping the software of the other components accurate to prevent system errors caused by faulty software (column 15, lines 6-13).

As noted above, the invention of Gray and Razavi teaches all of the features of the claimed invention except for including performing an error diagnosis of software running on the components, in accordance with a predetermined value, and, in case of an error, correcting the software.

Buckley teaches a vehicle instrument panel computer interface and display including a central control node that communicates to a plurality of other components (column 2, lines 57-62 and column 3, lines 29-51) and performs an error diagnosis of software running on the plurality of components (column 8, lines 46-63). Buckley also teaches determining the occurrence of an error in the software using a cyclic redundancy check with a checksum value (column 7, lines 38-52 and column 9, lines 28-38) (see also FOLDOC Free On-Line Dictionary of Computing, "cyclic redundancy check"), memory check (column 9, lines 38-55) and newly downloaded software check (column 10, lines 27-33), and, upon the occurrence of an error, correcting the software to maintain correct operation (column 9, lines 36-37 and 41-42 and column 10, lines 27-33) through the updating/upgrading the components of the system (column 10, lines 27-43).

It would have been obvious to one having ordinary skill in the art to modify the invention of Gray and Razavi to include performing an error diagnosis of software running on the components, in accordance with a predetermined value, and, in case of an error, correcting the software, as taught by Buckley, because the combination would have provided a further method for determining when new updates are required, such as the updates/upgrades disclosed by Gray and Razavi, and, as

suggested by Buckley, provided a method for determining whether the software of the devices are updated, complete, and correct thereby insuring correct operation of the distributed system (column 8, lines 46-65, column 9, lines 28-30 and column 10, lines 30-33).

As noted above, the invention of Gray, Razavi, and Buckley teaches many of the features of the claimed invention and while the invention of Gray, Razavi, and Buckley does teach including a communication element for loading new software interfaces for the plurality of components, the combination does not specify that the communication element includes a transceiver station communicating over a radio channel or including an arrangement for allowing a remote diagnosis of the plurality of components of the distributed system and a communications element for, in the case of a serious functional error, contacting a service provider.

Chou teaches a system and method for vehicle diagnostics and health monitoring including an in-vehicle computing system (column 2, lines 55-63) connected to a plurality of elements on a bus (column 3, lines 33-37 and column 6, lines 55-56) and an arrangement for allowing a remote diagnosis of the system (column 3, lines 15-31) and a communications element for, in the case of a serious functional error, contacting a service provider (column 5, lines 16-24 and column 7, lines 4-26). Chou also teaches coupling the processor through a communicating transceiver for communicating over a radio channel to further devices such as a notebook computer (column 3, lines 47-53).

It would have been obvious to one having ordinary skill in the art to modify the invention of Gray, Razavi, and Buckley to specify that the communication element includes a transceiver station communicating over a radio channel, as taught by Chou, because Chou suggests that RF communication is one of a plurality of common communication means for interfacing to a plurality of devices thereby providing the user with desired method to communicate with the other devices. It also would have been obvious to include an arrangement for allowing a remote diagnosis of the plurality of components of the distributed system and a communications element for, in the case of a serious functional error, contacting a service provider, as taught by Chou, because the combination would have provided a method for adhering to space constraints of the system while still providing detailed monitoring and diagnostic functions to insure correct system operation and, as suggested by Chou, aided the user of the system by providing trouble-shooting, diagnosis, tracking, and recommendations, as well as prevented serious consequences (column 1, lines 18-30) and provided emergency responses to an emergency condition, such as the condition indicated by the emergency arrangement of Gray (column 7, lines 22-26).

10. Claim 22, as may best be understood, is rejected under 35 U.S.C. 103(a) as being unpatentable over Gray in view of Razavi, Buckley and Chou and further in view of U.S. Patent No. 4,866,713 to Worger et al.

As noted above, the invention of Gray, Razavi, Buckley and Chou teaches many of the features of the claimed invention including determining the occurrence of an error in the software using a cyclic redundancy check with a checksum value (Buckley; column 7, lines 38-52 and column 9, lines 28-38), however, the combination does not specify that this error diagnosis is performed at a predefined time interval.

Worger teaches an operational function checking method and device for microprocessors comprising performing a cyclic redundancy check at predefined time intervals (i.e. periodically) (column 4, lines 24-29).

It would have been obvious to one having ordinary skill in the art to modify the invention of Gray, Razavi, Buckley and Chou to specify that the error diagnosis is performed at a predefined time interval, as taught by Worger, because the combination would have provided a method for determining proper operation periodically over operation of the device to insure accurate operation is being performed and, as suggested by Worger, the combination would have complied with operation of the system in carrying out the testing method (column 4, lines 24-29).

11. Claim 24, as may best be understood, is rejected under 35 U.S.C. 103(a) as being unpatentable over Razavi et al. in view of U.S. Patent No. 5,867,587 to Aboutalib et al.

As noted above, the invention of Razavi teaches many of the features of the claimed invention and while the invention of Razavi does teach including a service

element for performing an emergency function as well as a video source, Razavi does not specify detecting an emergency situation using a video image of a passenger.

Aboutalib teaches an impaired operator detecting and warning system employing eyeblink analysis comprising means for detecting an emergency situation (column 4, lines 33-42) and if the emergency situation is detected, acquiring a video image of a passenger (column 1, lines and column 3, lines 57-64), comparing the acquired video image with a recorded image (column 1, lines 55-66), and determining if an emergency function should be performed based on the comparison (column 2, lines 9-17 and column 4, line 66 to column 5, line 18).

It would have been obvious to one having ordinary skill in the art to modify the invention of Razavi to specify detecting an emergency system using a video image of a passenger, as taught by Aboutalib, because, as suggested by Aboutalib, the combination would have improved the system of Razavi by providing means for determining and responding to the operational state of the driver of the vehicle of Razavi in order to increase driver safety (column 1, lines 8-16 and column 4, line 66 to column 5, line 18).

12. Claim 25, as may best be understood, is rejected under 35 U.S.C. 103(a) as being unpatentable over Razavi et al. in view of U.S. Patent No. 6,060,989 to Gehlot.

As noted above, the invention of Razavi teaches many of the features of the claimed invention and while the invention of Razavi does teach including a service element for performing an emergency function, Razavi does not specify detecting an emergency situation using an audio sample of a passenger.

Gehlot teaches a system and method for preventing automobile accidents comprising a plurality of sensors connected to a vehicle architecture (column 3, lines 16-26) wherein the system performs detecting an emergency situation (column 4, lines 56-60) and in the emergency situation, acquiring an audio sample of a passenger (column 3, lines 27-63 and Table 1), analyzing the acquired audio sample and (column 4, line 60 to column 5, line 5 and Table 1), and determining if an emergency function should be performed based on the analysis (column 5, lines 6-20)

It would have been obvious to one having ordinary skill in the art to modify the invention of Razavi to specify detecting an emergency situation using an audio sample of a passenger, as taught by Gehlot, because, as suggested by Gehlot, the combination would have improved the system of Razavi by providing means for determining and responding to the operational state of the driver of the vehicle of Razavi in order to increase driver safety (column 1, lines 12-21 and column 5, lines 6-20).

13. Claim 24, as may best be understood, is rejected under 35 U.S.C. 103(a) as

being unpatentable over Gray et al. in view of Razavi et al. and further in view of U.S. Patent No. 5,867,587 to Aboutalib et al.

As noted above, the invention of Gray and Razavi teaches many of the features of the claimed invention and while the invention of Gray and Razavi does teach including a service element for performing an emergency function as well as a video source, Razavi does not specify detecting an emergency situation using a video image of a passenger.

Aboutalib teaches an impaired operator detecting and warning system employing eyeblink analysis comprising means for detecting an emergency situation (column 4, lines 33-42) and if the emergency situation is detected, acquiring a video image of a passenger (column 1, lines and column 3, lines 57-64), comparing the acquired video image with a recorded image (column 1, lines 55-66), and determining if an emergency function should be performed based on the comparison (column 2, lines 9-17 and column 4, line 66 to column 5, line 18).

It would have been obvious to one having ordinary skill in the art to modify the invention of Gray and Razavi to specify detecting an emergency system using a video image of a passenger, as taught by Aboutalib, because, as suggested by Aboutalib, the combination would have improved the system of Gray and Razavi by providing means for determining and responding to the operational state of the driver of the vehicle of Gray and Razavi in order to increase driver safety (column 1, lines 8-16 and column 4, line 66 to column 5, line 18).

14. Claim 25, as may best be understood, is rejected under 35 U.S.C. 103(a) as being unpatentable over Gray et al. in view of Razavi et al. and further in view of U.S. Patent No. 6,060,989 to Gehlot.

As noted above, the invention of Gray and Razavi teaches many of the features of the claimed invention and while the invention of Gray and Razavi does teach including a service element for performing an emergency function, Gray and Razavi does not specify detecting an emergency situation using an audio sample of a passenger.

Gehlot teaches a system and method for preventing automobile accidents comprising a plurality of sensors connected to a vehicle architecture (column 3, lines 16-26) wherein the system performs detecting an emergency situation (column 4, lines 56-60) and in the emergency situation, acquiring an audio sample of a passenger (column 3, lines 27-63 and Table 1), analyzing the acquired audio sample and (column 4, line 60 to column 5, line 5 and Table 1), and determining if an emergency function should be performed based on the analysis (column 5, lines 6-20)

It would have been obvious to one having ordinary skill in the art to modify the invention of Gray and Razavi to specify detecting an emergency situation using an audio sample of a passenger, as taught by Gehlot, because, as suggested by Gehlot, the combination would have improved the system of Gray and Razavi by providing means for determining and responding to the operational state of the driver

of the vehicle of Gray and Razavi in order to increase driver safety (column 1, lines 12-21 and column 5, lines 6-20).

Response to Arguments

15. Applicant's arguments filed April 02, 2007, have been fully considered but they are not persuasive.

Applicant argues:

> Claims 11 and 19, as amended, recite the limitations of, inter alia, "performing an error diagnosis of software running on the other components" and "conducting within the service element, a remote diagnosis of the components of the distributed system."
>
> In the present Office Action, the Examiner notes, and Applicants agree, that Razavi does not teach or suggest performing an error diagnosis, de Bellefuille is asserted in view of Razavi's shortcomings, to which Applicants must respectfully disagree.
>
> de Bellefuille teaches a computerized automotive servicing component, as may be hooked up to the electrical system of a motor vehicle. (e.g. col. 8, lines 10-21 describing the invention as used in a wheel alignment device). The automotive servicing device is not disposed within the motor vehicle, as recited in claim 11, but rather is manually connected to the vehicle during a servicing operation. Additionally, de Bellefuille describes on col. 11, lines 19-26 performing an integrity check on software files, but fails to teach or suggest conducting the "remote diagnosis of the other components," using the embedded service element. Therefore, Applicants submit the rejection is improper as the combination of Razavi and de Bellefuille fails to teach or suggest all of the claimed limitations of claims 11 and 18-19 (in view of the cancellation of claims 13 and 15).

The Examiner asserts that, as noted above, the specification does not adequately support "conducting, within the service element, a remote diagnosis of the other components of the distributed system."

The Examiner further asserts that the invention of Razavi discloses, as may best be understood, conducting, within the service element, a remote diagnosis of the other component of the distributed system by employing remote diagnosis through any of the components including the service element, specifically:

> In another scenario, a service station may have a wireless LAN so that a vehicle equipped with a network and wireless communication device can establish a connection with the LAN as the vehicle pulls into the station. Once the connection is established, the in-car sub-network and LAN can function as a single network. The service station may be configured to request the service records of the vehicle so that any necessary service may be performed. (column 15, lines 3-10)

Applicant argues:

> Claims 11 and 19 provide for a service element and a distributed system including other components that are independent of one another and interconnected by a bus, the service element includes software instructions for: configuring the other components, upgrading the other components, maintaining the other components, and performing an emergency function.
>
> In accordance with the example embodiment described in the present application, "the service element of the present invention and the distributed system of the present invention have the advantage that the service element is able to carry out configurations, upgrades, maintenance, and, if necessary, emergency functions on the components of the distributed system." (See Specification, page 1, lines 22-25).
>
> In contrast, Gray concerns a vehicle control computer system and device interface. A vehicle control center, with a processor and memory, provides user access to devices operating within the vehicle. The manufacturer of the devices provides a device interface stored within the device. When a device is installed in the vehicle, the processor or other control element of the vehicle control center becomes aware of the installation and requests or otherwise receives the stored device interface from the device. The vehicle control center uses the device interface as received or replaces it with a different interface already stored in memory. (Abstract, lines 1-12). Furthermore, Gray states the vehicle control center may be used to control other components including "radar, air bag activation and status, video cameras, emergency rescue, alarms, anti-theft system, odometers, gyroscope, route guidance, access control, location transponder, video games, an intemet connection, a digital multimedia broadcasting receiver, telephone receivers, digital video decoders and recorders,

a digital audio broadcasting receiver, voice recognition systems, a cellular telephone handset either directly connected or linked via infrared, a digital cell phone module and a gateway to other buses." (Col. 3, lines 52-65).

Accordingly, Gray does not disclose or even suggest the features in which the service element "maintains other components" and "performs an emergency function" in a distributed system, as provided for in the context of claims 11 and 19. Gray merely indicates that when a device is installed in a vehicle, a vehicle control center becomes aware of the installation and requests or otherwise receives a stored device interface from the device such that the vehicle control center uses the device interface as received or replaces it with a different interface already stored in memory. Gray does not describe that the vehicle control center, itself, performs an emergency function. Nothing in Gray discloses or even suggests the claim features of an arrangement for maintaining other components in a distributed system and an arrangement for performing an emergency function, as provided for in the context of claims 11 and 19.

The Examiner first asserts that Gray is not relied upon for teaching the maintaining of other components as the Office Action indicates "As noted above, the invention of Gray teaches many of the features of the claimed invention and while the invention of Gray does teach a service element connected to a plurality of other components over a bus to configure and/or upgrade the other components, Gray does not explicitly teach the makeup of the bus or explicitly include maintaining the other components."

The Examiner further asserts that with respect to the limitation requiring an arrangement for performing an emergency function, Gray specifically states, "A heating/air conditioning unit 250 can be controlled using the vehicle control center to set the appropriate environmental conditions within the passenger cabin. Other attached devices can be used in the network vehicle. These include radar, air bag activation and status, video cameras, emergency rescue, alarms, anti-theft system..." (column 3, lines 49-55). The Examiner asserts that this section of Gray

indicates that the service element (i.e. vehicle control center) is used to control emergency devices, such as an air bag device, emergency rescue device, or anti-theft system. Therefore, since the service element is controlling the emergency devices to perform their functions for airbag activation, emergency rescue, and anti-theft, the service element is performing an emergency function through such control. This is apparent because if the service element were not present to control the emergency devices, the emergency functions would not be performed.

Applicant argues:

> Claims 11 and 19 further recite software instructions for "upgrading the other components" (the other components being a number of independent components of a distributed system). The Office Action asserts this limitation as being disclosed on col. 4, line 65 to col. 5, line 6 of Gray, which refers to the downloading of the most recent version of a manufacturer's device interface from a URL network address. However, such an assertion is clearly wrong because Gray fails to disclose a component that upgrades other independent components. That is, Gray refers only to a download or firmware upgrade, which is received by a single component of the system but not distributed to the other components. In particular, in Gray the manufacturer's device interface is downloaded only to the vehicle control center and never transferred to any of the other devices. This makes sense because a device would presumably never need an interface to access itself.
>
> In support of the present rejection, the Examiner asserts Razavi for teaching interconnected independent components across an electrical bus and maintain the other components. Applicants must respectfully disagree because Razavi fails to teach or suggest a service element that maintains the other components as claimed herein. Rather, the Examiner-cited passage of Razavi (col. 15, lines 6-13) expressly discloses a service station using a wireless connection to wirelessly simulate a service element, which is inconsistent with the limitation of the service element being "in a motor vehicle" as claimed herein.

The Examiner maintains that Gray discloses a service element that belongs to a distributed system in a motor vehicle as a component, the distributed system further

including other components that are independent of one another and interconnected by a bus, the service element comprising a processing device disposed in the motor vehicle and adapted to perform operations including the operation upgrading the other components:

> As an alternative to storing a control bean 750 and a GUI bean 760 or other beans associated with the standard device interface 740, the memory device or ROM may store a network address such as a uniform resource locator (URL) from which the appropriate manufacturer's interface may be downloaded. This permits the manufacturer to update a user interface on a dynamic basis and ensure that the most recent version of the manufacturer device interface is downloaded when a device is installed. This also reduces the ROM space required for storing the manufacturer's interface information and reduces the cost of the attached end device. (column 4, line 65 to column 5, line 8)

The Examiner maintains that such a disclosure of upgrading the interfaces of each device through the service element meets the limitation for "upgrading the other components".

The Examiner also notes that Applicant admitted in the Appeal Brief filed February 15, 2005, "The Gray patent only provides for configuration and upgrading of devices via a vehicle control center that may be used to control various devices of the vehicle (e.g., air bag activation, etc.)." Therefore, Appellant is admitting that the invention of Gray does include a service element (i.e. vehicle control center) that is used to configure and upgrade the other components, as required in claims 11 and 19.

The Examiner also maintains that Razavi teaches a service element that belongs to a distributed system as a component, the distributed system further including other components that are independent of one another and interconnected by an electrical bus, the service element comprising a processing device disposed in the motor vehicle and adapted to perform operations including the operation of maintaining the other components, specifically:

> Once the connection is established, the in-car sub-network and LAN can function as a single network. The service station may be configured to request the service records of the vehicle so that any necessary service may be performed. If a software maintenance update is required by one of the components in the vehicle, a server on the LAN may automatically download this information to the appropriate component. Alternately, the user of the vehicle may request information or services. For example, the user may request that music (e.g., in MP3 format) or videos (e.g., in MPEG-2 format) be downloaded for the passengers' entertainment. The user may also have information he or she wishes to have printed, in which case the information could be transmitted to a printer on the service station's LAN, where it could be picked up by the user. (column 15, lines 6-13)

The Examiner maintains that such a disclosure of using the service element to perform software maintenance of any of the vehicle components when required meets the limitation for "maintaining the other components".

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure:

U.S. Patent No. 6,313,749 to Horne et al. teaches sleepness detection for vehicle driver or machine operator.

U.S. Patent No. 6,243,015 to Yeo teaches driver's drowsiness detection method of drowsy driving warning system.

U.S. Patent No. 6,028,514 to Lemelson et al. teaches a personal emergency, safety warning system and method.

U.S. Patent No. 6,526,460 to Dauner et al. teaches a vehicle communications system.

FOLDOC Free On-Line Dictionary of Computing, "cyclic redundancy check", teaches the definition of a "cyclic redundancy check" as a method wherein a number is "derived from, and stored or transmitted with, a block of data in order to detect corruption. By recalculating the CRC and comparing it to the value originally transmitted."

17. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey R. West whose telephone number is (571)272-2226. The examiner can normally be reached on Monday through Friday, 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eliseo Ramos-Feliciano can be reached on (571)272-7925. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jeffrey R. West
Primary Examiner
Art Unit – 2857

July 23, 2007